REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claims 9 and 18 have been amended to more particularly point out and distinctly claim the subject matter of this invention, by specifying that the heat weldable binder fiber is a polyester binder fiber, except for conjugate fiber. See page 15, lines 19-22; and page 20, lines 6-15.

New claims 19 and 20 are supported at page 24, line 22.

There is a single ground of rejection of record in the parent application. Claims 9-11 and 17-18 are rejected under 35 USC 103 as being unpatentable over Goettmann. This ground of rejection is respectfully traversed as applied to the claims after the foregoing amendments.

1. With respect to double refraction (Δn)

Goettmann describes 0.43-denier x 10 mm polyester staple fibers supplied by Kuraray Co., Ltd., Osaka, Japan (hereinafter "Kuraray") (melting temp. 480°F) (column 4, line 2 to line 4).

However, Kuraray does not supply fibers of 0.43 denier in the market. Goettmann must have misunderstood that polyester short cut EP 043 (type NO) has 0.43 denier (see the brochure of Kuraray, Polyester Short Cut EP., attached herewith).

The Applicant measured the double refraction (Δn) of EP 043 in the same manner as described on line 9 to line 19 of page 29 of the present specification. The value of double refraction (Δn) of EP 043 was 0.147. Such a lowly oriented fiber can never show such a dimensional stability as 4.0 km or more in a mean value of breaking length at an elongation of 5% in a lengthwise direction (MD) and a crosswise direction (CD), or such heat shrinkage stress (0.10-0.60 g/d at 200°C) so as to form uniform pores in nonwoven fabric.

Polyester fiber having a double refraction (Δn) of 0.170 or more is specifically designed as described in the present specification, and is not available in the market.

Accordingly, Goettmann does not disclose or suggest a nonwoven fabric made from fibers having the claimed mean single fiber fineness.

2. With respect to breaking length

The breaking length of fabric formed on EP 043 (60%) and EP 101 (40%) is shown on page 8 of the brochure.

The breaking length specified in JIS EP 8113 is in general a strength/elongation at cutting of fiber having a cutting elongation of 20% or more and shows a value higher than strength at elongation of 5%, experimentally 2 times as high as strength at elongation of 5%. Therefore, when the value of breaking length shown on page 8 of the brochure is converted to the value at an elongation of 5%, it can be estimated that about a half of the value of breaking length shown on page 8 of the brochure is at highest of 1 km corresponds to the value of breaking length at an elongation of 5% in the present invention.

A nonwoven fabric having a breaking length at an elongation of 5% of less than 4km cannot be provided with uniform pore size distribution as shown in Table 5 of the present specification. Goettmann corresponds to the comparative example in Table 5 of the present specification.

Accordingly, Goettmann does not disclose or suggest a nonwoven fabric made from fibers having the claimed breaking length.

3. With respect to binder resin

A binder resin which Goettmann uses is a bicomponent binder type, which corresponds to a conjugate fiber in the present specification. Such a conjugate fiber is excluded from the present invention by the foregoing amendments.

Accordingly, Goettmann does not disclose or suggest a nonwoven fabric made from the claimed heat weldable polyester binder fiber.

4. With respect to heat treatment (Thermal Calendar Process)

Goettmann describes a fabric which is "thermally calendared with rolls heated to temperatures of 425°F" on lines 25-26 in column 4. This temperature is higher than a melting point of EP-101 bicomponent binder fiber supplied by Kuraray (melting temp. 375°F) and N-

720H bicomponent binder fiber supplied by Kuraray (melting temp. 225°F). Such a thermal calendar process at a temperature higher than a binder resin cannot actually be carried out to produce a support member, because the binder resin will melt and adhere to the roll.

In contrast, the thermal calendar process according to this invention is carried out at a temperature lower than the melting point of the binder resin.

Accordingly, Goettmann fails to disclose or suggest a heat treatment according to claims 19 and 20.

In view of the foregoing, it is respectfully submitted that the nonwoven fabric of the amended claims is non-obvious over the teachings of Goettmann. The cited reference clearly fails to disclose or suggest the claimed nonwoven fabric as a whole. Accordingly, reconsideration and allowance is solicited.

Respectfully submitted,

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